



Pacific International
Space Center for
Exploration Systems

2012 PISCES Forum

Pioneering Planetary Surface Systems Technologies and Capabilities

Marriott Waikoloa - South Kohala, Hawai'i
November 11-15, 2012

DATE	TIME	EVENT
SUNDAY (Nov. 11)	1:30 p.m.	On-Site Registration Begins - <i>Hotel Lobby</i>
	2:00 p.m.	PISCES Board of Directors Meeting - <i>Paniolo I</i>
	6:00 p.m.	Delegate Reception - <i>Paniolo Terrace</i>
MONDAY (Nov. 12)	7:00 a.m.	Breakfast Buffet – <i>Hawai'i Calls Restaurant</i>
		<u>OPENING CEREMONIES</u> - <i>Naupaka IV</i>
	8:00 a.m.	<i>Opening Pule</i> - Ms. Koa Rice <i>CAPER Center for Astronomy & Physics Education Research</i>
	8:05 a.m.	<i>Aloha and Welcome</i> Mary Alice Evans, Deputy Director <i>Hawai'i Dept. of Business, Economic Development & Tourism</i> Henk Rogers, Vice Chairman <i>Pacific International Space Center for Exploration Systems</i>
	8:15 a.m.	<i>The Origins and Future Potential of PISCES</i> Stephen Day, Chairman Emeritus <i>Japan-U.S. Science, Technology & Space Applications Program</i>
	8:30 a.m.	<i>The View from the Hawai'i State Legislature</i> Senator Will Espero, Rep. Angus McKelvey
	8:45 a.m.	<i>The View from NASA</i> Alex MacDonald, Program Executive <i>NASA Emerging Space Office</i>
	9:00 a.m.	<i>NASA's Joint Robotic Precursor Activity: Providing Strategic Knowledge to Inform Future Human Exploration</i> Dr. Michael Wargo, Chief Exploration Scientist <i>Advanced Exploration Systems</i> <i>Human Exploration and Operations Missions Directorate - NASA HQ</i> (via videoconference)



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DATE	TIME	EVENT
MONDAY	9:30 a.m.	<i>Realizing the PISCES Vision: A Status Report</i> Robert Kelso, Executive Director - PISCES
	10:00 a.m.	Refreshment Break and Group Photo - <i>Naupaka Lanai</i>
	10:30 a.m.	<u>Keynote Panel</u> <i>Enabling Sustainable Exploration Beyond LEO</i> <i>Lunar Resources: Importance and Availability</i> Dr. Clive Neal, Professor of Geology - University of Notre Dame (via videoconference) <i>Planetary Resources: Importance and Availability</i> Dr. Paul Hintze, Materials Science Engineer - NASA KSC <i>Commercial Opportunities: Lunar</i> Jim Keravala, CEO - Shackleton Energy Company Inc. <i>Commercial Opportunities: Planetary</i> Dr. Tai Sik Lee, President - Intl. Space Exploration Research Inst./ROC
	12:00 Noon	Lunch - <i>Naupaka IV</i> Guest Speaker: Elliot Pulham CEO - Space Foundation Chairman - Hawai'i Aerospace Advisory Committee Topic: <i>A Global Perspective on PISCES</i>
	1:30 pm	<u>Plenary Panel 1: PISCES Programs and Capabilities</u> <i>Dust to Thrust</i> Christian Anderson, Program Manager - PISCES Dale Boucher, Advanced Projects Manager - NORCAT <i>Rocks to Blocks</i> Rob Kelso, Executive Director - PISCES Dr. Paul Hintze, Materials Science Engineer - NASA KSC <i>Robotics and Navigation</i> Dr. Lutz Richter, General Secretary - ISTVS
	3:00 p.m.	Refreshment Break - <i>Naupaka Lanai</i>
	3:30 p.m.	<u>Plenary Panel 2: PISCES Programs and Capabilities</u> <i>Base Facility, Education/Visitors Center/Public Outreach, Field Test Sites, Robotic Village</i> John Hamilton, PISCES Christian Anderson, PISCES Dr. Kim Binsted, Associate Prof. of Computer Science - U.H. Manoa
	5:00 p.m.	<i>Adjourn</i>



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DATE	TIME	EVENT
TUESDAY (Nov. 13)	7:00 a.m.	Breakfast Buffet - <i>Hawai`i Calls Restaurant</i>
	8:00 a.m.	<u>TECHNOLOGY PAPER PRESENTATIONS - Session 1</u>
		Track 1: Mining, Planetary Infrastructure, and Construction <i>Naupaka IV</i>
		Track 2: Technology, Robotics, and Mission Concepts <i>Naupaka V</i>
	10:00 a.m.	Refreshment Break - <i>Naupaka Lanai</i>
	10:30 a.m.	<u>TECHNOLOGY PAPER PRESENTATIONS - Session 2</u>
		Track 1: Mining, Planetary Infrastructure, and Construction <i>Naupaka IV</i>
		Track 2: Technology, Robotics, and Mission Concepts <i>Naupaka V</i>
	12:00 Noon	Lunch - <i>Naupaka IV</i> Guest Speaker: Dr. Lutz Richter, General Secretary International Society for Terrain Vehicle Systems Topic: <i>Recent Advances in Terrain Vehicle Systems</i>
	1:30 p.m.	<u>TECHNOLOGY PAPER PRESENTATIONS - Session 3</u>
		Track 1: Mining, Planetary Infrastructure, and Construction <i>Naupaka IV</i>
		Track 2: Technology, Robotics, and Mission Concepts <i>Naupaka V</i>
	3:00 p.m.	Refreshment Break - <i>Naupaka Lanai</i>
	3:30 p.m.	<u>PLENARY SESSION 2 - Naupaka IV</u> Introduction to Workshops: <i>Technology Innovation - Robert Kelso, PISCES</i> <i>Education & Public Outreach - John Hamilton, PISCES</i> <i>Sustainable Exploration Beyond LEO - Dan Bland, JAMSS America Inc.</i> <i>Stephen Day, Intl. Ventures Assoc.</i>
	5:00 p.m.	<i>Adjourn</i>



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DATE	TIME	EVENT
WEDNESDAY (Nov. 14)	7:00 a.m.	Breakfast Buffet - <i>Hawai`i Calls Restaurant</i>
	8:00 a.m.	<u>APPLICATIONS / CAPABILITIES WORKSHOPS</u> <i>Workshop 1: Technology Innovation - Paniolo I</i> <i>Workshop 2: Education and Public Outreach - Paniolo II</i> <i>Workshop 3: Sustainable Exploration Beyond LEO - Paniolo III</i>
	10:00 a.m.	Refreshment Break - <i>Naupaka Lanai</i>
	10:30 a.m.	<u>APPLICATIONS / CAPABILITIES WORKSHOPS</u> <i>Workshop 1: Technology Innovation - Paniolo I</i> <i>Workshop 2: Education and Public Outreach - Paniolo II</i> <i>Workshop 3: Sustainable Exploration Beyond LEO - Paniolo III</i>
	12:00 Noon	Lunch - <i>Naupaka IV</i> Guest Speaker: Dr. Kazuya Yoshida, Space Robotics Lab Tohoku University Topic: <i>White Label Space and the Google Lunar X-Prize</i>
	1:30 p.m.	<u>APPLICATIONS / CAPABILITIES WORKSHOPS</u> <i>Workshop 1: Technology Innovation - Paniolo I</i> <i>Workshop 2: Education and Public Outreach - Paniolo II</i> <i>Workshop 3: Sustainable Exploration Beyond LEO - Paniolo III</i>
	3:00 p.m.	Refreshment Break - <i>Naupaka Lanai</i>
	3:30 p.m.	<u>APPLICATIONS / CAPABILITIES WORKSHOPS</u> <i>Workshop 1: Technology Innovation - Paniolo I</i> <i>Workshop 2: Education and Public Outreach - Paniolo II</i> <i>Workshop 3: Sustainable Exploration Beyond LEO - Paniolo III</i>
	4:30 p.m.	Special Presentation - <i>Naupaka IV</i> Options and Opportunities for Sustainable Space Exploration Dr. Buzz Aldrin, Astronaut - <i>Gemini 12, Apollo 11</i> CEO - <i>Unified Space Vision</i>
	5:30 p.m.	<i>Adjourn</i>



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DATE	TIME	EVENT
THURSDAY (Nov. 15)	7:00 a.m.	Breakfast Buffet - <i>Hawai`i Calls Restaurant</i>
	8:00 a.m.	<u>APPLICATIONS / CAPABILITIES WORKSHOPS</u> <i>Workshop 1: Technology Innovation - Paniolo I</i> <i>Workshop 2: Education and Public Outreach - Paniolo II</i> <i>Workshop 3: Sustainable Exploration Beyond LEO - Paniolo III</i>
	10:00 a.m.	Refreshment Break - <i>Naupaka Lanai</i>
	10:30 a.m.	<u>APPLICATIONS / CAPABILITIES WORKSHOPS</u> <i>Workshop 1: Technology Innovation - Paniolo I</i> <i>Workshop 2: Education and Public Outreach - Paniolo II</i> <i>Workshop 3: Sustainable Exploration Beyond LEO - Paniolo III</i>
	12:00 Noon	Lunch - <i>Naupaka IV</i> Guest Speaker: Henk Rogers, Chairman - Blue Planet Foundation Topic: <i>Why do we go? – The Space Exploration Imperative</i>
	1:30 p.m.	<u>CLOSING PLENARY</u> - <i>Naupaka IV</i> <i>Summary of Workshop Discussions:</i> <ul style="list-style-type: none">• <i>Initial Technology Thrusts/PISCES Capabilities</i>• <i>Visions/Support for Sustainable Settlements beyond LEO</i> <i>Strategies/Next-Steps for Building PISCES Partnerships</i> <i>Optimum Capabilities Phasing and Prioritizing for 2013 Operations</i>
	3:30 p.m.	PISCES Board of Directors Meeting - <i>Paniolo I</i>
	5:00 p.m.	<i>Adjourn</i>
	6:00 p.m.	ALOHA Dinner - <i>Waikoloa Lu'au Grounds</i>